

BIENNIAL REPORT OF THE BOARD OF AGRICULTURE AND FORESTRY

While the public has been kept advised, from month to month, of the doings of the board of agriculture and forestry, through reports of the meetings and extracts from the divisional reports, printed in the daily press, a really impressive estimate of the value of the services of this bureau or branch of the territorial government, is not had until they are all summed up in the biennial report of the commissioners to the governor. That for the period ending December 31, 1912, contains 250 pages, besides 36 insert plates.

First dealt with in the general report is the division of forestry. Up to the close of 1912, 27 forest reserves had been set apart by proclamation of the governor. They now have a total area of 683,101 acres, of which 454,810 acres, or 67 per cent, is land belonging to the territory. "The native forest in Hawaii," the report says, "is primarily of importance because it is the best cover obtainable for the catchment basins of the streams needed for irrigation. Its chief product is water, not wood. To make it serve its purpose most fully it needs to be managed strictly as a protection forest, from which men and animals are alike excluded."

Much tree planting was done by the territory on public lands, and by sugar planting corporations on their own lands, in the past two years. From the government nursery in Honolulu, and sub-nurseries on Hawaii and Kauai, there were sent out in 1911 trees to the number of 626,789. In 1912 the number was 806,537. Free distribution on Arbor Day has continued to be a feature. With the aid of the federal government, experimental planting of exotic trees of economic importance has been continued.

Needs of Forestry

Pressing needs of the division of forestry are emphasized, being: 1, better protection of native forests needed for watershed cover; 2, better provision for distributing seedlings by the establishment of additional sub-nurseries; 3, the extension of experimental planting; 4, the planting of more government land; 5, the continuation and extension of the policies of the division with respect to protection of forests from fire and the giving of advice and assistance to owners of forest land.

Reference is made to the employment of Prof. Silvestri of Italy to go to Africa in search of a parasite of the Mediterranean fruit fly—in which later reports show that he has been successful—and it is recommended, as financial assistance from the federal government cannot be promised indefinitely, that a special appropriation be made for continuing the fruit fly control work during the biennial period.

For the division of animal industry there are recommendations made that every facility be provided for the continued effective exclusion of animal scourges from the mainland, that provision be made to enable the division completely to eradicate gladders from the territory, that the bovine tuberculosis work be extended to cover the entire territory, that the recommendations of the milk commission of 1911 be carried out and that the live stock sanitary service outside the city and county of Honolulu be permanently established and regulated.

An appendix to the report contains in full a paper read by Walter M. Giffard, president of the board, before the joint committee of the board and the sugar planters' association on forestry.

Report on Forestry

Reports of divisions for the biennial period are also appended. That of R. S. Hooper, superintendent of forestry, makes an elaborate argument for the continuation and extension of forestry work upon the motto—"Save the forests; store the floods." He says that "the means for doing what is required can be had by devoting to forest purposes, especially to forest protection, a portion of the revenues now derived from the water right leases and licenses in the existing forest reserves. Upward of \$67,000 per annum is now derived by the territory from this source. A part of this money ought to be reinvested in the forest as a revolving fund, which in the end would pay back the amount so invested, with good interest."

Having made a strong plea for increased attention to forest reserves describing what is needed, Mr. Hooper says: "That we are very far in Hawaii, from the realization of the ideal is unfortunately true. Technically, to be sure, forest reserves have been set apart on each of the larger islands. Practically, only a few of those created are receiving the care necessary to keep them in the condition in which they should be maintained for the good of all concerned. The assistance given by the corporations is acknowledged, but the superintendent tells of various things lacking in the proper care of the reserve forests."

An interesting report of the consulting botanist, J. F. Black, is appended to the forestry report, showing a great deal of work done in plant investigation.

Report on Entomology

E. M. Ehrhorn, entomologist, tells of a great increase in the task of his division in keeping pests out of the islands. He acknowledges the cooperation of the customs officials in the work, and with some information regarding his force gives the following details of inspection:

"Owing to changes in schedules by some of the steamship companies, there have been as many as four boats arriving simultaneously. During the two years the superintendent

and his assistants have boarded at Honolulu and Hilo 991 vessels, finding vegetable matter on 556 of these. As compared with the biennial period of 1909-1910, there is an increase of 85 vessels boarded and 72 vessels carrying vegetable matter. In 1911, 294,059 packages, and in 1912, 280,930 packages of fruits, vegetables and plants have been inspected, making a grand total of 484,989 packages in all. As compared with the biennial period of 1909-1910 there is a large increase in these shipments. This amounts to 97,928 packages, or nearly 25 per cent.

"Owing to the rigid inspection enforced at this port and the improved county inspection and compulsory fumigation and spraying of orchards in California and other coast states, there has been a noticeable improvement in all fruit shipments from the mainland."

In recommending increased facilities for the work of the division, Mr. Ehrhorn says:

"Now that the Panama canal is almost completed, we shall have direct communication with Central America, Mexico, the West Indies and several South American countries. Some very serious pests exist in these countries and we must look ahead and provide sufficient funds so as to be able to employ more assistants as well as to provide for laboratory and fumigating rooms."

Animal Industry Report

Dr. Victor S. Norgaard, in the report of the division of animal industry, tells of the great progress made toward the eradication of bovine tuberculosis on Oahu. He also discusses the importations of live stock into the territory, with mention of improvement in the quality of animals being brought in. Following are extracts from his report:

"That the quality of the beef and the value of the dressed carcasses have increased is illustrated by the following figures obtained from the leading slaughter house in Honolulu: 1909-1910—cattle killed, 8403; average weight per carcass, 449 lbs.; average price per cwt. dressed, \$9.77.

1910-1911—cattle killed, 8746; average weight per carcass, 451 lbs.; average price per cwt. dressed, \$9.78.

1911-1912—cattle killed, 10,013; average weight per carcass, 450 lbs.; average price per cwt. dressed, \$9.96.

"This shows that on a total of more than ten thousand head killed during the past year, an increase of 41 lbs. per carcass or an aggregate of over 400,000 lbs. which is due solely to improved breeding and care. The increase in price is less apparent except when considered in connection with the earlier maturity."

"In 1909 it was estimated that the total consumption of beef was about 15,000 carcasses per annum, of which number approximately 60 per cent was used in the City of Honolulu. During the fiscal year 1911-1912 there were killed in Honolulu between 10,000 and 10,500 head of cattle or approximately 16,000 head in the territory. Besides this there was imported 530,000 lbs. of beef of which approximately 90 per cent came from Australia and the rest from California. This imported beef is consumed principally by the enlisted men in the army whose daily allowance is twenty ounces of fresh meat per man. It is therefore obvious that with the shortage of native cattle and the constantly increasing population of the islands will be obliged to import beef in much larger quantities than hitherto. It is estimated that considerably more than 1,000,000 lbs. of beef will have to be imported during the coming year."

"In 1909 it was estimated that there were about 100,000 sheep in the islands which under favorable conditions should have been sufficient to supply a demand of about 1200 sheep per month. For some reason, however, sheep raising, and especially for mutton production has received the cold shoulder, and it is doubtful whether there is today much over 30,000 sheep in the territory. During 1911-12 there were killed in Honolulu 9200 sheep, the carcasses of which averaged less than 35 lbs. in weight. Various diseases, mostly of parasitic nature, in connection with overstocking of ranges, have been the principal factors in the diminishing of the flocks."

"While the demand for island mutton has remained unchanged the constant presence in the local markets of imported mutton, which as a rule is of prime quality and retails at the same price as the native product has caused the local consumers to overcome a certain prejudice against frozen or chilled mutton, which seemed to exist. Many of the consumers have found it more profitable to purchase the imported mutton because the carcasses are larger, averaging 45 to 50 lbs., and the waste consequently, is less."

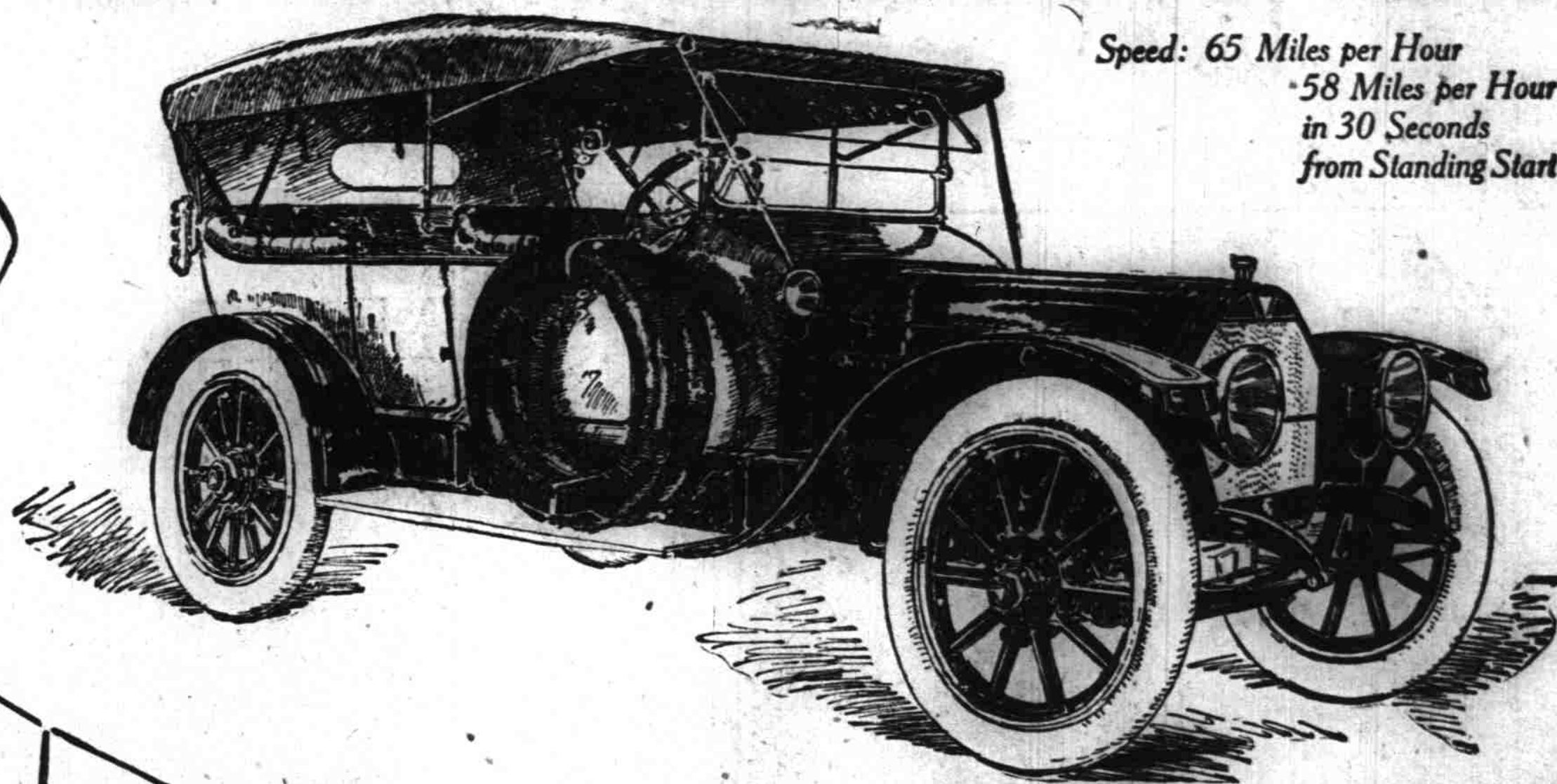
"For the past few years there has been imported in the neighborhood of 100-500 carcasses of mutton monthly. For the year 1911-12 the total was 152,000 lbs. of mutton as compared to 155,000 lbs. in 1910-11 and 244,000 lbs. in 1909-10."

"The large Oriental population, and especially the Chinese, consume great quantities of pork. Up until 1909-10 there were imported from 5000 to 10,000 butcher hogs annually from California. The very high prices resulting from a scarcity, due to hog cholera in California, gave a certain impetus to hog breeding in the islands, and in the course of a few years sufficient hogs were raised here to supply the entire demand. The climatic conditions seem to be everything that can be desired for hog raising and the dreaded hog cholera appears to affect the animals in a very mild form only."

(Continued on page 17)

The "54" HUDSON—a "SIX"

Speed: 65 Miles per Hour
58 Miles per Hour
in 30 Seconds
from Standing Start



The Answer Is Here

to that oft asked question: "What will Howard E. Coffin do when he builds a 'Six?'"

The "54" HUDSON is Mr. Coffin's reply to the most frequently asked question heard since the beginning of six-cylinder talk.

The car is here now. Experts who have driven the "54" through mountains, over long tours, in both winter and summer, and who have observed its ideal smoothness and flexibility, claim it to have no superior in any automobile, regardless of make or cost.

Many owners of the highest priced cars have remarked after examining and riding in the "54" that it is foolish for anyone to pay more for an automobile than it sells for, no matter what demands they have or how fastidious they may be.

The surprise to all motordom is that Mr. Coffin developed the "54" HUDSON along entirely different lines from those he had followed in designing his four-cylinder cars.

He is too shrewd a designer to attempt such a departure unaided. Before starting his "Six" he built up his Board of 48 Expert Engineers. Then they all worked together for two years—until every man agreed that this was the best he knew.

Came from Everywhere

Gathered from everywhere, possessing the training and experience acquired in 97 factories, some of them in Europe, these men have helped to build more than 200,000 automobiles.

Mr. Coffin wanted his six-cylinder to be a wonderful car. He knows, as well as anyone knows, the limit of any one man's ability. He knows there is much in six-cylinder cars that four-cylinder experience has not taught. So he went after the men who had done the most as six-cylinder designers.

Where One-Man Cars Fail Short

No man need be told that Howard E. Coffin leads all in building four-cylinder cars. No other designer has built as many successful automobiles. But the mastery of cars of the four-cylinder type is no indi-

cation that the man is master of the six.

Many a designer has learned that to his sorrow. Six-cylinder cars have wrecked splendid reputations built up by two of four-cylinder accomplishment.

Adding Two Cylinders Won't Make A Good Six

Very few designers have been able to get in excess of 30 percent increased power from their six-cylinder motors of the same bore and stroke as used in their "four." Although they have added 50 percent to the piston displacement, have practically doubled the gasoline and oil consumption, have increased the weight and have made the car more costly to operate, many sixes have failed entirely to develop that flexible smoothness for which sixes are really built.

Thus is shown the shortcomings of the one-man idea of designing. When one man dominates in the designing of an automobile, it expresses his ability and his limitations. Every man is over-developed in one way or another. Every man is good at one thing and not so good at other things. No man is perfectly balanced and no machine designed by any one man can be more rounded toward perfection than can be the ability and experience of the man who designed it.

This Not a One-Man Nor a One-Idiot Car

But with 48 men, all concentrating on one car, not much is apt to be overlooked. No one man dominates. Each individual is a specialist in some branch of the work at which no one of his associates is quite his equal.

Consequently the "54" HUDSON is thoroughly proportioned.

It is not merely a "Six" which is made so by the addition of two cylinders to a good four cylinder car.

It has power. But its power is not abnormal in proportion to its other parts. It has beauty. But

no detail of its mechanical design is overlooked. It is completely equipped. Every detail that adds to comfort and luxury is included, but this is not done with the idea of attracting sales or through skimping in any other direction.

Each Supreme at His Work

Each expert is supreme in the work at which he leads. A badly proportioned car would be impossible under such methods of designing. Imagine the completeness of a car designed under such conditions. There are specialists among these 48 men, some of whom know nothing of motor designing. Their forte is in other directions. They have been gathered from everywhere.

The one-man car, no matter who built it—even though it were Howard E. Coffin himself—cannot be its equal, for no one man can ever possess the skill and experience these men combined possess.

But just as trained soldiers under proper generalship become a fighting machine of greater efficiency than are those same men without direction, so Howard E. Coffin by his inspiration and guidance brought out of his 47 associates work of which they are incapable under other conditions.

All that years of experience has taught in all the leading factories in all types of motor car construction, is represented by these 48 men.

This you can recognize when you examine the car, even though you know nothing of automobile designing. You can sense the distinction, for it is expressed in every line—in the ease of the seats, in the purr of the motor, in its instant and powerful responsiveness, in the smoothness of its riding.

It gives an entirely different sensation from that experienced in other cars. Nothing short of actual demonstration is sufficient to convey an impression of the smooth, gliding sensation of comfort and safety you feel in riding in the "54" HUDSON.

Electric Self-Cranking—Electrically Lighted

Comfort

Modern automobile designing is tending toward comfort and convenience. The time was when people were willing to put up with a great deal of inconvenience in their motoring. They realized that a 150-mile drive in a day was fatiguing. Unless he was particularly robust, the driver hardly felt like covering a similar distance the next day. His passengers usually were tired and cross at the end of the day's journey.

But in the HUDSON every known development looking toward easy riding qualities is incorporated.

The upholstery is 12 inches deep—Turkish type. You sink down into it and lounge restfully in its softness as you rest in a favorite chair. The springs are flexible, bodies rigid and well proportioned. There is roominess in the tonneau and in front.

Completeness

The regular equipment includes an electric self-starter which, by the touching of a button and the pressure of a pedal starts the motor 100 times out of 100 trials. It is 100 percent sure.

Electric lights are operated from a generator, also a part of the self-cranking arrangement. They project a brilliant light for a much greater distance than gas, and are controlled from the driver's seat.

The windshield has a rain vision arrangement which permits driving in a blinding rain with clear vision for the driver and with full protection to the occupants of the front seat. The windshield is made integral with the body.

The very appearance and feel of the "54" express its quality. A gauge indicates the flow of oil through the crank case. The oil itself is not seen. A hand records that proper lubrication is being given to all parts, and another gauge indicates the supply of gasoline. There is a speedometer and clock. All these are illuminated. The condition of the car and its supplies, both day and night, are at the immediate observation of the driver.

Demountable rims and big tires—36" x 4 1/2"—minimize all

care cases. Tire holder, tools and every item of convenience are

Get-Away—Speed—Power

From a standing start, the "54" HUDSON will attain in 30 seconds a speed of 58 miles an hour. That indicates its get-away. What other car do you know will do as well?

On the Speedway at Indianapolis, a stock car, fully equipped, having two extra tires and hauling four passengers, top down and glass windshield folded, traveled ten miles at the rate of 62 1/2 miles an hour. This is marvelous when you consider that only twelve months ago a \$500 prize was offered to the stock touring car similarly equipped that would do one mile in one minute flying start on that track. Several well-known cars attempted the test but failed to make good. Well-known racing drivers pronounced the "54" HUDSON the fastest stock touring car built. It was not planned as a speed car, but as an ideal automobile for every requirement. It will go as slowly as 2 1/2 miles an hour on high and fire evenly on all six cylinders. It will jump to 58 miles an hour within 30 seconds from a standing point. There is more speed in the "54" HUDSON than any driver, except an expert, traveling over a protected and absolutely cleared course, should ever demand of it.

The Chassis is Simple

There are but two grease cups on the motor. Other lubricating points throughout the chassis are just as accessible.

Consider the importance of choosing a car complete in every detail. In your selection of an automobile it is important that not one item of its design and construction has been overlooked.

It is equally apparent that no one man is so infallible that he is not apt to make mistakes. The safeguard against error is in having many experts design the car. What one overlooks or is unable to accomplish, an associate corrects or is able to do. These 48 men, each a specialist in his line, have put into the car all that they have learned elsewhere. Can you imagine their leaving anything undone in a car they combined in building?

And can you think it possible that anyone is likely to soon produce anything that these men have not already anticipated and that is not already on the "54" HUDSON?

If you do not know the name of the HUDSON dealer nearest you, write us. We will arrange a demonstration that will give you a new meaning of automobile service.

If you are interested in automobiles it will pay you to have your name on our mailing list. Send us your address.

Electric Self-Cranking. Automatic. Will turn over motor 30

minutes. Powerful enough to pull car with load. Free from complications. Simple. Positively effective.

Electric Lights. Brilliant head lights. Side lights. Tail lamp. Illuminated dash. Extension lamp for night work about car.

All operated by hand switch on arm of steering wheel.

Ignition. Integral with electric cranking and electric lighting equipment. Gives magnet spark. Known as Delco Patent System, the most effectively efficient yet produced.

Power. Six cylinders—in blocks of three. Long stroke. New type, self-adjusting multiple jet carburetor. High efficiency great economy, 37.5 horsepower, brake test. 54 horsepower at 1500 revolutions per minute.

Speedometer and Clock. Illuminated face. Magnetic construction. Jeweled bearings. Right-day keyless clock.

Windshield. Rain vision and ventilating. Not a makeshift. Not an attachment. A part of the body.

Upholstering. 12 inches deep. Highest development of automobile upholstery. Turkish type. Soft, flexible, resilient. Comfortable positions. Hand-buffed leather.

Demountable Rims. Latest type. Light. Easily removed. Carry 36 x 4 1/2" Fiat tires heavy car type. Extra rim.

Tops. Genuine mohair. Graceful lines. Well fitted. Sturdy. Curtains. Dust envelopes.

Bodies. Note illustration. Deep, low, wide and comfortable. You sit in the car—not on it. High backs. Graceful lines. All fastened according to best construction practices. 21 color—varnish and color.

Nickel trimmings throughout.

Gasoline Tank. Gasoline is carried in tank at rear of car. Simple, effective, with two pound pump pressure. Keeps constant supply in carburetor either going up or down hill. Magnetic gasoline gauge continually indicates gasoline level.

Bearings. All roller bearings, thoroughly tested. Latest type. Wheel Base. 127 inches.

Rear Axle. Pressed steel. Full adjustable, full floating. Large bearings. Heat-treated nickel steel shafts. Easily disassembled. An item which indicates the simplicity and get-al-ability of the entire car.

Simplicity. The HUDSON standard of simplicity is maintained. Every detail is accessible. There is no unnecessary weight. All fitting places are convenient. Every unit is so designed that it can be quickly and easily disassembled. Think what an advance this is over even the previous HUDSON—the "33"—the "Car with 1000 less parts."

Models and Prices. Five-Passenger Touring. Torpedo. Two-Passenger Roadster. \$2450. 1000 cc. 5. Detroit. Seven-Passenger Touring Car. \$1500 additional. Limousine. 7-passenger. \$3750. Coupe. 3-passenger. \$2950. Extra open bodies furnished with either limousine or coupe. Price quoted on request.

The Hudson "37". The four-cylinder masterpiece with the same high quality of finish and equipment as is used on the "54" is \$1875 f.o.b. Detroit. It is furnished in models of 4-passenger Touring Car, Torpedo and 2-passenger Roadster. See it also.

Associated Garage, Ltd.,

F. E. HOWES, Manager

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